IN THE CLAIMS

1. (Currently Amended) A method of enabling growth of mammalian cells, which method comprises: supplying liquid comprising biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the ~~substrate~~ surface to form a polymer fibre scaffold having fibre of a given diameter with gaps between adjacent fibre portions; and applying mammalian cells to the fibre scaffold, wherein the gaps between the fibre portions and the fibre diameter have a size relative to a diameter of the mammalian cells such that cells grow or elongate preferentially along the fibre of the fibre scaffold.

2. (Original) A method according to claim 1, wherein the fibre diameter is comparable to or smaller than the cell diameter.

3. (Original) A method according to claim 1, wherein the cell diameter is from 1 to 20 times the fibre diameter.

4. (Original) A method according to claim 1, wherein the cell diameter is from 5 to 10 times greater than the fibre diameter.

5. (Original) A method according to claim 1, wherein the cell diameter is in the range from about 2 to about 20 microns and the fibre diameter is in the range from about 1 to 2 microns.

6. (Original) A method according to claim 1, wherein the cell diameter is about 10 microns and the fibre diameter is from 1 to 2 microns.

7. (Original) A method according to claim 1, wherein the fibre diameter is from 1 to 2 microns.

8. (Original) A method according to claim 1, wherein the relative sizes of the cell and fibre diameters are such that the fibre surface appears curved to the cells.

9. (Original) A method according to claim 1, wherein the fibre diameter is of comparable size to cell surface receptors of the cells.

10. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein the polymer is selected from the group consisting of New Skin, Eudragit RL100, polycaprolactone, polylactide (L:D isomer ratio 50:50) and polylactide (L:D isomer ratio 96:4).

11. (Currently Amended) A method according to ~~any preceding~~ claim 1, wherein the cells are human adherent cells.

12. (Currently Amended) A method according to ~~any of claims 1 to 9~~ claim 1, wherein the cells are human fibroblast cells.

13. (Currently Amended) A method according to claim 1 wherein the mammalian cells include ~~of facilitating growth of~~ human fibroblast cells, ~~which method comprises: supplying liquid comprising a biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the surface to form a~~ and the polymer fibre scaffold has ~~having~~ fibre of diameter in a range of 1 to 2 microns with gaps between adjacent fibre portions~~; and applying the human fibroblast cells to the fibre scaffold, wherein the gaps between the fibre portions and the fibre diameter are such that the human fibroblast cells grow or elongate preferentially along the fibre of the fibre scaffold~~.

14. (Original) A method of facilitating at least one cell process of human fibroblast cells, which method comprises: supplying liquid comprising a biologically compatible polymer selected from the group consisting of New Skin, Eudragit RL100, polycaprolactone and polylactide to a liquid outlet in the vicinity

of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the surface to form a polymer fibre scaffold having fibre of a diameter in a range of 1 to 2 microns with gaps between adjacent fibre portions; and applying the human fibroblast cells to the fibre scaffold, wherein the gaps between the fibre portions and the fibre diameter are such that the human fibroblast cells grow or elongate preferentially along the fibre of the fibre scaffold.

15. (Currently Amended) A method according to claim 20 wherein the mammalian cells comprise ~~of facilitating at least one cell process of~~ human bone marrow fibroblast cells, and wherein the mean fibre diameter of fibres in the ~~which method comprises: supplying liquid comprising a biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the surface to form a~~ polymer fibre scaffold ~~having fibre of a diameter of~~ is about 3 microns with the mean size of gaps between adjacent fibre portions of about 16 microns~~; and applying the human bone marrow cells to the fibre scaffold~~.

16. (Original) A method of providing an environment for facilitating differentiation of stem cells, which method comprises: supplying liquid comprising a biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of diameter that, without addition of extrinsic biological factors, facilitates differentiation.

17. (Original) A method according to claim 16, further comprising applying stem cells to the fibre scaffold without addition of extrinsic biological factors.

18. (Original) A method of facilitating differentiation of osteogenic stem cells, which method comprises: supplying liquid comprising a biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing

from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of diameter of about 10 microns with gaps between adjacent fibre portions of about 16 microns; and applying the cells to the fibre scaffold without addition of extrinsic biological factors but wherein, after a period of time, the cells have a morphology resembling nerve cells.

19. (Currently Amended) A method according to claim 16, ~~17 or 18,~~ wherein the polymer comprises polycaprolactone.

20. (Original) A method of facilitating at least one cell process of mammalian cells, which method comprises: supplying liquid comprising a solution of a biologically compatible polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of a diameter in the range from 0.2 to 100 microns with gaps between adjacent fibre portions in the range from about 10 to 500 microns; and applying mammalian cells to the fibre scaffold.

21. (Original) A method of facilitating at least one cell process of mammalian cells, which method comprises: supplying liquid comprising a biologically compatible polymer melt to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of a diameter in the range from 2 to 500 microns with gaps between adjacent fibre portions in the range from about 25 to 3000 microns; and applying mammalian cells to the fibre scaffold.

22. (Currently Amended) A method according to ~~any of claims 1 to 19~~ claim 1, wherein the polymer formulation is a polymer solution.

23. (Currently Amended) A method according to ~~any of claims 1 to 19~~ claim 1, wherein the polymer formulation is a polymer melt.

24. (Original) A method of forming a fibre scaffold for facilitating at least one cell process of mammalian cells, which method comprises: supplying comprising biologically compatible molten or liquid polymer to a liquid outlet in the vicinity of a surface and subjecting liquid issuing from the outlet to an electric field to cause the liquid to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of a diameter in the range of from 20 to 70 microns and a gap size between adjacent fibre portions in the range of 100 to 500 microns.

25. (Currently Amended) A method according to ~~any of the preceding claims~~ claim 24, wherein the fibre scaffold is arranged to be implanted in a mammalian body or placed on or in a wound.

26. (Currently Amended) A method according to ~~any of claims 1 to~~ claim 24, wherein the surface is a target area of a mammalian body such as a wound and the fibre scaffold is produced in situ.

27. (Currently Amended) A method according to ~~any of the preceding claims,~~ claim 1 wherein the cells are applied by a seeding process.

28. (Currently Amended) A method according to ~~any of claims 1 to 26,~~ claim 1 wherein the cells are applied by spraying.

29. (Currently Amended) A method according to ~~any of claims 1 to 26,~~claim 1 which comprises preparing a liquid formulation suitable for enabling cells to be applied to the fibre scaffold by subjecting the liquid formulation to an electric field to cause the liquid to break up into droplets, which comprises formulating cell culture medium with a water soluble polymer.

30. (Currently Amended) A method according to ~~any of claims 1 to 26,~~claim 1 which comprises applying the cells to the fibre scaffold by subjecting a liquid formulation comprising cell culture medium carrying the cells and a water soluble

polymer to an electric field to cause the liquid to break up into droplets or to form at least one fibre.

31. (Original) A method of applying cells to a substrate, which method comprises subjecting a liquid formulation comprising cell culture medium carrying the cells and a water soluble polymer to an electric field to cause the liquid to break up into droplets or to form at least one fibre.

32. (Currently Amended) A method according to claim ~~29, 30 or~~ 31, wherein the water-soluble polymer is selected from the group consisting of PEO, PVP and PVA.

33. (Currently Amended) A method according to claim ~~29, 30, 31or~~ 32, wherein the cell culture medium is DMEM.

34. (Original) A method of forming a polymer fibre scaffold, for example to form a wound dressing, which method comprises producing polymer fibre using electric field effect techniques so that the polymer fibre deposits onto the surface of a target area, such as skin and/or wound, to form a covering or dressing for the target area, wherein the polymer fibre production is controlled to control the polymer charge and relaxation time, and thereby control the lateral force experienced by the polymer fibre resulting from the fibre that has already settled on the target area, so as to control the pattern of deposition of the polymer fibre on the target area, to produce a lattice or web like polymer fibre scaffold to facilitate the formation of skin tissue by fibroblasts of a weave pattern rather than an aligned parallel pattern.

35. (Currently Amended) A method according to ~~any of claims 1 to 14, 16, 17, 20, 21 and 24 to 34,~~ claim 1 wherein the fibre gap is greater than approximately half the cell diameter.

36. (Currently Amended) A method according to ~~any of claims 1 to 14, 16, 17, 20, 21 and 24 to 34,~~ claim 1 wherein the fibre diameter is less than the fibre gap.

37. (Original) Apparatus for enabling growth of mammalian cells, which method comprises: a reservoir of liquid comprising biologically compatible polymer having a liquid outlet; an electric field generator configured to generate an electric field in a region between the liquid outlet and a substrate to cause liquid issuing from the outlet to form polymer fibre which is attracted to and deposits onto the substrate to form a polymer fibre scaffold having fibre of a given diameter with gaps between adjacent fibre portions; and a cell applier for applying mammalian cells to the fibre; and an applier for applying cells to the fibre scaffold, wherein the apparatus is configured to control the size of the gaps between the fibre portions and the fibre diameter such that the cells grow or elongate preferentially along the fibre of the fibre scaffold.

38. (Original) Apparatus according to claim 37, wherein the apparatus is configured to control the fibre diameter to be comparable to or smaller than the cell diameter.

39. (Original) Apparatus according to claim 37, wherein the apparatus is configured to control the fibre diameter such that the cell diameter is from 1 to 20 times the fibre diameter.

40. (Original) Apparatus according to claim 37, wherein the apparatus is configured to control the fibre diameter such that the cell diameter is from 5 to 10 times greater than the fibre diameter.

41. (Original) Apparatus according to claim 37, wherein the applier is configured to provide cells having a cell diameter in the range from about 2 to about 20 microns and the apparatus is configured to control the fibre diameter to be in the range from about 1 to 2 microns.

42. (Original) Apparatus according to claim 37, wherein the applier is configured to provide cells having a cell diameter of about 10 microns and the apparatus is configured to control the fibre diameter to be from 1 to 2 microns.

43. (Currently Amended) Apparatus according to ~~any of claims 37 to 42,~~ claim 37 wherein the polymer is selected from the group consisting of New Skin, Eudragit RL100, polycaprolactone, polylactide (L:D isomer ratio 50:50) and polylactide (L:D isomer ratio 96:4).

44. (Currently Amended) Apparatus according to any ~~of claims 37 to 43,~~ claim 37 wherein the polymer formulation is a polymer solution.

45. (Currently Amended) Apparatus according to any ~~of claims 37 to 43,~~ claim 37 further comprises a heater for melting polymer to provide the polymer formulation.

46. (Currently Amended) Apparatus according to ~~any of claims 37 to 43,~~ claim 37 wherein the applier comprises human cells such as fibroblast cells or stem cells.

47. (Currently Amended) Apparatus according to ~~any of claims 37 to 46,~~ claim 37 wherein the fibre gap is greater than approximately half the cell diameter.

48. (Currently Amended) Apparatus according to ~~any of claims 37 to 47,~~ claim 37 wherein the fibre diameter is less than the fibre gap.

49. (New) A method according to claim 1, wherein the surface is a target area of a mammalian body such as a wound and the fibre scaffold is produced in situ.

50. (New) A method according to claim 16 wherein the cells are applied by a seeding process.

51. (New) A method according to claim 16 wherein the cells are applied by spraying.